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ABSTRACT

This journal provides a focal point for the collection and distribution of systematically processed information about theory and practice in theatre. Part of an irregularly published series, this issue contains investigations of the application of transactional analysis to the theatre, the psychological effect of counterattitudinal acting in theatrical role-playing, the implications of "body buffer zone," or interpersonal territory for the staging of productions, and the relationship between a general developmental profile of Florida school children and measures of their creativity. (KS)

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EDITORIAL COMMENT: We beg your indulgence for some of the peculiar hyphenations at the ends of lines, and for the strange underlines. Blame rests with the computer. This issue was experimentally composed using a new program facility, "LA PLUME" (a combination of two older IBM programs, "CALL/OS" and "TEXT/360") now available through the facilities of the Computational Center at Bowling Green University. The system features rapid editing, storage, and automatic formatting. For further information regarding "LA PLUME" contact the editors of ERT.

TRANSACTIONAL ANALYSIS: A NEW PERSPECTIVE FOR THE THEATRE

Roger W. Hite, Jackie Czerepinski, and
Dean Anderson

The need to know what motivates human behavior has always suggested a necessary, though uncomfortable, alliance between the theatre artist and the behavioral scientist. Most playwrights, actors, and directors tend to intuit their knowledge about human psychology. Observation and personal experience rather than psychological theories serve as the basis for dramatization of human behavior. To turn to the psychologist for theories and models of human behavior, however helpful, may seem to some heretical. Yet, a dramatic production, in the final analysis, is based upon a sound grasp of the principles of human behavior. Indeed, great drama often so accurately portrays human psychology that we find the behaviorist borrowing from the artist. We find psychologists using such terms as Oedipus complex, Electra complex, role, and script in their psychological theories.[1] It is unfortunate, therefore, that so little effective interaction has occurred between the artist and the behavioral scientist--as we suspect dramatic theory has suffered the greatest loss.

But we ought not place the blame solely on the artist who believes scientific approaches are antithetical to artistic perspectives. The behavioral scientist has obscured his psychological theories by couching them in highly specialized Freudian ter-

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[1]Berne (1971) explores the possibility of employing the concept of script as a model for explaining human behavior. Using this dramatic term, Berne suggests that all humans formulate for themselves a life-script, a blueprint for conducting their lives. Once we formulate a life script, Berne postulates further, we seek out people to play the appropriate supporting roles.

minology. When we are occasionally treated to a Freudian psychoanalysis of a character or a drama, the intelligent artist is frequently overwhelmed rather than enlightened by such an analysis (S. S. Rubin, 1970-71). What is needed to bring together the psychologist and the dramatist into a healthy alliance is not a mandatory psychology minor for all theatre majors in our educational institutions and professional schools, but rather a new psychological model, a new perspective on human behavior using everyday language that can be understood by all involved in a dramatic production. Fortunately, over the past several years the field of psychology has produced such a model. It is called "transactional analysis." The purpose of this essay is to describe transactional analysis and to suggest its potential for application in the theatre arts.

TRANSACTIONAL ANALYSIS

Origins of Transactional Analysis

The theory of transactional analysis grew out of clinical research conducted by the Canadian psychiatrist, Dr. Eric Berne. In 1958, Berne wrote a series of articles describing the use of transactional analysis in group therapy. His first book on the subject, Transactional Analysis in Psychotherapy (1961), was addressed primarily to clinical psychologists and psychotherapists and received only a luke-warm reception. It was not until Berne published his popular version of the theory in Games People Play (1964), that transactional analysis received much attention--and here it was the attention and interest of the layman rather than the professional or the scholar. Indeed, for some elusive reason only a handful of scholarly articles have appeared on the subject over the past decade (G. A. Eskedal, 1971; R. L. Johnson and A. P. Chatowsky, 1969; Roy Grinker, 1959; Harley Shands, et. al., 1959; F. H. Ernst, 1962). Despite the coolness of scholars toward the model, the recent publication of Dr. Thomas Harris' book on transactional analysis, I'm O.K.--You're O.K. (1969), suggests that the model is still finding popularity

among the general reading public. Yet, to date, our survey of the existing transactional theory literature is completed with a mentioning of Berne's latest book, published posthumously, What do You Say After You Say Hello? (1972).

Basic Tenets of Transactional Analysis

Transactional analysis theory is predicated upon several basic assumptions about the nature, purpose, and structure of human communication. First, is the assumption that man possesses a stimulus-hunger--a basic biological need to interact with other humans (Berne, 1964, p. 13). In our infancy we demand physical touching and contact. As mature adults our stimulus-hunger is satisfied by the symbolic touching of smiles, hellos, nods, words of praise and recognition, or simply nonsense chit-chat during a coffee break. We satisfy our stimulus-hunger by engaging in social transactions which have as their fundamental unit the stroke (Berne, 1964, p. 15). A social transaction occurs when we exchange good-morning greetings. For example, a basic two-stroke greeting might sound like this: "Good morning. How are you?" "Fine, and you?" "Fine." The more involved we become with friends, co-workers, and family members, the more complex our patterns of stroking.

A second basic assumption in transactional analysis theory is that we also possess a structure-hunger (Berne, 1964, p. 16). In other words, after we've said hello, unless we withdraw, we need some structural pattern for our ensuing transactions. Berne identifies five basic patterns which serve as the superstructure for all interpersonal communication transactions: ritual and procedures; pastimes; activities; games; and intimacy.

A ritual is defined as "a stereotyped series of simple complementary transactions programmed by external social forces" (Berne, 1964, p. 35). Saying "hello" may vary from culture to culture, or within a subculture, but the basic form within the

system remains highly redundant and predictable. In addition, if system theorists are correct in their assumption that redundant symbolic behavior conveys little information, we might assume that ritualistic transactions communicate very little information. Rituals are the result of external forces structuring interpersonal communication. Transactions motivated by internal psychological forces communicate more information because they are less predictable forms of transactions.

A pastime is another basic interpersonal communication pattern. Berne defines it as "a series of semi-ritualistic, simple, complementary transactions arranged around a single field of material, whose primary object is to structure an interval of time. The beginning and end of the interval are typically signaled by procedures or rituals" (Berne, 1964, p. 41). A coffee break or cocktail party often functions as the stage for pastimes such as talking about sports, politics, cars, PTA, or school. A pastime, although structured by external forces, is less predictable than a ritual and therefore holds greater potential for containing information.

An activity is perhaps the most common way we structure our time spent in the presence of others. It is a utilitarian method of structuring time--best characterized by what we call work. Activity is frequently the matrix for other kinds of time structuring. For example, the work activity may give rise to ritual or pastime transactions relating to the task being performed. Working in a garage lubricating automobiles may cause mechanics to engage in the pastime of talking about cars.

Intimacy is a form of time structuring which occurs relatively infrequently in human interactions but which provides most rewarding communication experiences. It involves stroking that satisfies others without generating payoff which satisfies the needs of those transacting. It involves the genuine exploration of human feeling, beliefs, attitudes, fears and apprehensions. Intimate interpersonal

transactions are less redundant and less predictable because they are not influenced by external rules for conveying information. There is no goal or payoff involved in intimate transactions, hence little need for predictability and control.

The most interesting aspect of time structuring involves those transactions that fall into the category of games. It is this dimension of transactional theory that may prove most useful to dramatic theorists. Berne (1964, p. 48) provides the following definition of a game:

> A game is an ongoing series of complementary ulterior transactions progressing to a well-defined, predictable outcome. Descriptively it is a recurring set of transactions, often repetitious, superficially plausible, with a concealed motivation. . . . Games are clearly differentiated from procedures, rituals, and pastimes by two chief characteristics: (1) their ulterior quality and (2) the payoff. Procedures may be successful, rituals effective, and pastimes profitable, but all of them are definitely candid: they may involve contest, but not conflict, and the ending may be sensational, but it is not dramatic. Every game, on the other hand, is basically dishonest; and the outcome has a dramatic, as distinct from merely exciting, quality.

The moves of a game are roughly equivalent to strokes. A typical simple game might occur as follows: A girl seeking a compliment from her boyfriend might say: "That was a beautiful dress Susie was wearing." Boyfriend responds: "I think your dress is more attractive." Girl: "This old thing?" Boyfriend: "I think you are the prettiest girl at the dance." Girl: "You're just saying that to make me feel good." Boyfriend: "No. I really mean it." Girl: "Really?" Boyfriend: "Honest."

Berne's years of clinical research led him to discover and define several archetypal games which he humorously portrays in his book Games People

Play. If such games exist in real human transactions, then we ought not to be surprised to find them in the time structuring patterns of dramatic productions.

In addition to the assumption that man needs to stroke and to pattern his stroking behavior, transactional theory postulates that when people participate in transactions they necessarily involve aspects of their ego. Berne defines an ego state as "a coherent system of feelings . . . a set of coherent behavior patterns. In more practical terms, it is a system of feelings accompanied by a related set of behavior patterns" (1964, p. 23). Accordingly, each individual possesses three basic ego states: a Parent, Child, and Adult ego state. Berne argues that these states are not analogous to the Freudian states of superego, ego, and Id, but rather are phenomenological realities--observable behavior patterns. The Parent ego state contains all data an individual has processed in his lifetime which involves value judgments made about events by the parent or the parent-substitute. Like the other ego states, it is a recording that we play back when confronted with situations and transactions that seem analogous to a previously experienced parent controlled situation. We draw upon our recording of parent data when it is applicable in a particular social transaction. For example, when a father who is scolding his son finds himself using the same phrases, gestures, posture, vocal intensity, and argumentative strategies used by his own father, he can be sure his Parent ego state is controlling the transaction. When we find ourselves objectively and unemotionally processing information in a transaction we can be sure our Adult is the controlling ego state. For example, when we process information needed to cross a busy intersection, usually our Adult is in control. The Child ego state is roughly equivalent to the spontaneous emotional expression which is frequently characteristic of children. It is more reflective of the emotional dimension of the self, than with the logical dimension which resides in the Adult, or the ethical, moralizing dimension

which resides in our Parent ego state.[2]

Much of what happens in game transaction is a result of the clash between ego states controlling the behavior of those involved in the transaction. Indeed, the task of the psychotherapist who engages in transactional analysis is to identify the crossed-transactions and the clashes that occur as a result of incompatibilities of ego states which control specific human transactions.

A final assumption made in transactional analysis theory is the belief that when people engage in social transactions they must assume one of four basic transactional positions. A transactional position is roughly equivalent to the communicator's basic attitude toward himself (i.e., self-esteem) and his perceived relationship with others in general. The clearest explanation of these basic positions is found in Dr. Thomas Harris' book, I'm O.K.--You're O.K.. Harris identifies four basic life positions: (1) I'm not O.K.--You're O.K., (2) I'm O.K.--You're not O.K., (3) I'm not O.K.--You're not O.K., and finally, (4) I'm O.K.--You're O.K.. Harris theorizes that we begin our life in the first position because of our relationship with parents and other authority figures. They are always right, we're always wrong. As we mature and our Adult ego state develops more fully, we have the potential for moving into the ideal position of I'm O.K.--You're O.K.; the position of love. It may be possible to characterize humans in terms of which of these basic positions tends to control their interactions with others. Furthermore, we might make certain predictions about their behavior if we know their basic life position.

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[2]Rhetoricians take note: there appears to be a rough similarity between Berne's definition of ego states and the classical rhetorical formula of ethos, pathos, and logos. Such a similarity bears further exploration.

Summary

It is somewhat presumptuous to attempt a summary of transactional theory in such a brief space. What we have tried to do is to highlight the essential concepts of this behavioral paradigm. The reader is encouraged to explore transactional theory in more depth before making a final value judgment about its usefulness in dramatic theory. Harris' book might provide the appropriate starting point for further reading. Our sketchy outline, however, ought to serve as a basis for understanding the following section which suggests how transactional analysis may provide a useful perspective for the theatre artist.

TRANSACTIONAL ANALYSIS AND THE THEATRE

Transactional Analysis and Dramatic Criticism

Transactional analysis can be a valuable tool for both the dramatic theorist and the critic for many of the same reasons it may be usefully employed by actors and directors. Because transactional analysis is a theory based on observations of human interaction, rather than humans in isolation, it can help to explain character interaction within a play. It may also help the critic discover the reason why a particular man wrote a play at a particular time. Time structuring, basic life positions, transactions, and ego states are characteristic of playwrights, plays, and individual productions as well as separate human beings.

Critics seeking the connection between the playwright and the play might well employ transactional theory. The playwright has a basic life position, a personality composed of ego states and undoubtedly prefers a certain kind of interaction and time structuring in his own situation. He has his favorite games and pastimes which are related to his own life script. The combination of these elements might well be analogous to what some

critics currently call the playwright's "vision" or philosophy. However remote the play may be from the playwright's biography, it is a form of personal expression. Factors influencing the playwright will influence his plays. Biographical research, using the perspectives provided by transactional theory may yield additional insights into the play. For example, if the critic discovers certain dominant transactional patterns in the life of the playwright, he should not be surprised to find similar patterns employed when the playwright transacts with his audience through the vehicle of his play. Even when a play depicts events completely removed from the writer's own experience, his viewpoint--i.e., his preferred transactional patterns and positions--will probably still be prevalent. When we lack biographical data, the process might occasionally work in reverse. We might find enough recurrent positons and patterns in a man's work to draw some hypotheses about his personality--realizing that knowledge about a playwright's personality is far more relevant to understanding his work than are the bare facts of his biography.

Every play-script has a transactional form. It has a purpose which can be translated or discovered in transactional terms. Dramatic historians or critics may discover that certain types of transactions, time patterns, and ego states, characterize the works of particular authors, historical periods, and dramatic genres. For example, we might view dramatic genre in terms of overall transactional positions. The position of a tracedy appears to be I'm O.K.--You're O.K., because it says that we are human beings and are capable of great and noble actions. Some serious (but not tragic) plays or even comedies which rely on the audience realization that they are more noble or more rational than the characters, might be characterized by the You're O.K.--I'm not O.K. position. In absurdist plays where there is no affirmation, the position might be I'm not O.K.--You're not O.K.. Another possible position is the I'm O.K.--You can be O.K. If--position of the propaganda play.

In addition to the play's transactional position, the critic might consider its executive ego state--the ego state which tends to be the controlling ego state in the dramatic transaction between play and audience. Does the play give Parent, Adult, or Child stimuli and is there more than one level of transaction involved? For example, most propaganda plays provide a Parent stimulus to the audience. The play speaks from a position of authority and demands obedience with greater or lesser degrees of subtlety. Social satire may offer a "come and let us laugh and play together" Child stimulus on the social level but offer an Adult comment on the psychological level. Finally, the play will use one of the five archetypal time structures as the superstructure for its transaction with the audience. The dominant time pattern of a play written solely to entertain might be pastime. It may be intimacy when the goal is a genuine exploration of human feelings. A play-audience transaction may take the form of a game in which the audience is "tricked" into providing a payoff for the play, players, and playwright.

Transactional theory can also be used to find and describe the internal form and structure of the play (see B. Melnich, 1967; and R. Schechner, 1966). Action (in the Aristotelian sense) and interaction among the characters will provide a time structuring framework for the play. The skeletal structure of the drama may take the form of game, ritual, pastime, activity, intimacy, or even withdrawl. If the protagonist favors games (or a specific game) as a method of time structuring, we might find the play taking on the characteristics of game. In addition, the sequence of dramatic events will correspond with the moves in a game. The critic may even find that plot corresponds with the realization of the protagonist's life script (W. D. Cheney, 1969). For example, we might consider the play Hamlet, as a vehicle which facilitates the working out of Hamlet's life script. Finally, the critic might assess which ego state dominates the play. Does it reflect reality as viewed by Parent, Child, or Adult?

The play's "universe of probabilities"--which might be viewed as a universe of transactional probabilities-- may be easier to identify and discuss because of the concrete nature of the transactional vocabulary. Individual characters in the drama have human personalities in the transactional sense. These dramatic personalities, however incomplete in the drama, affect the audience's perceptions. In addition, they determine who will control the action and transactions in the play's scenes and acts. We might use transactional theory to speak in concrete terms about character development. For example, a protagonist may change his basic position from I'm not O.K.--You're O.K. to one of I'm O.K.--You're O.K.. At this point he would cease transacting games and begin transacting on the Adult-Adult level. Knowledge of transactional theory may help the critic discover whether the playwright has developed an internally consistent play--and provides the critic with a tool for criticizing consistency.

A play inevitably changes as it comes alive in production. Transactional theory can be used as a tool for examining and judging the methods and results of such changes. The production, per se, will have a position which will be determined in part by its particular audience. It will also exhibit an executive ego state and will depend upon time structuring. Indeed, poor management of the mechanics of transactions may be one of the reasons for the failure of a production. An avante garde production which purports to want to free its audience but which, in production, wants to prove that the audience is incapable of being free, is a game regardless of the original intention of the playwright. The transaction is ulterior and if the message comes across the production will probably fail in its social and psychological purpose.

Transactional Analysis and Directing

Transactional theory provides the director and actors with an easily assimilated theory of human interaction and a concrete vocabulary for discussing the production of a play. For example, we employed

transactional theory in rehearsing Pirandello's Right You Are and found it to be a useful and enlightening approach to directing and acting. Initially, two three-hour sessions were devoted to transactional theory. After a series of lectures, improvisations and discussions, the entire cast developed a basic understanding of the theory.

During the first session we dealt strictly with ego states and transactional positions. We began with lectures explaining the concepts and then reinforced the information by having the cast do improvisations. They were first asked to reinact either their own ego states at a particular time--i.e., "How do you react to your father when you come home past your curfew?"--or outstanding examples of ego states they had observed in their daily routine. Performances were followed by discussions for further clarification. The next set of improvisations involved assigned ego states. The actors chose their own situations. The two who did an Adult-Child transaction portrayed a young man "on the make" (Natural-Child) and his date (Adult), who put him off by giving uncoy answers to his advances.

Child: It's cold sitting here on the ground.
Adult: Yes, I'd say it was about 65 degrees.
Child: Can I put my arm around you?
Adult: If it will make you more comfortable.
Child: Shall we lie down?
Adult: Why?
Child: You can see the moon better from that position.
Adult: I didn't realize that. (They lie down. The Child attempted a few "passes." The Adult sat up.)
Child: What are you doing?
Adult: I can't see the moon very well down there.

Given the matter of fact tone maintained by the Adult, the Adult remained in that ego state. Had she responded verbally and nonverbally in either a condemning or eager manner, she would have changed

her ego state which in turn would alter the transaction. We discussed these improvisations with the aim of illustrating how the change in any ego state influences the transaction. Afterwards, we analyzed the dominant ego state of each character in the play.

The second session stressed time structuring. We maintained the same format only began with a review of ego states. Improvisations followed which illustrated ritual, pastime, and game transactions and then constructed such pastimes as "PTA" and "General Motors." To illustrate game transactions we constructed a party situation. Each member of the cast played the role of a game-playing guest. Everyone was aware of the games that would be played by the various "guests." We terminated this improvisation because many of the "guests" became overinvolved in playing their games. It took forty-five minutes of "stroking" to make everyone feel O.K. again. The exercise was valuable, however, because it emphasized for the cast the seriousness with which games can be played and the extent to which they can entrap players.

Our "party" interaction was followed by a discussion of the games contained in Right You Are. The cast generally agreed that the central game of the play was "Now I've Got You, You S.O.B.." In both sessions the actors learned to perceive the relationship between everyday transactions, ego states, life positions, and those implicit and explicit in the characters of the play.

The vocabulary of transactional theory allowed the director and actors to be more specific in discussing the psychological and motivational aspects of the production. Characters were explained and developed in terms of how they transacted with other characters and which ego states dominated. Most of the analyzing was conducted in group discussion. Each member tried to help other cast members perceive how he felt his character ought to transact with other characters.

One of the most helpful exercises was taken from Berne's What Do You Say After You Say Hello. The actors were asked to envision what was written on their character's sweatshirt. Instead of viewing this sweatshirt "motto" as the character's life script, we thought of it as a way of discovering the character's "play-script." Our interpretation of Pirandello's text suggested the following script-mottoes: Amalia, an arrogant, pushy woman was characterized by the motto "Will everyone here kindly step to the rear!;" Sirelli, the local gossip, by "I want to make one thing perfectly clear;" Cini, a not-too-bright old lady, by "I don't get it." and Frola, the woman whose life is being investigated by the other characters, by "I've got a secret."

Executive ego states and game preferences of characters, rather than vague Freudian motivational constructs, became the basis for developing characters. Amalia became Parent of Frola's Child. The director was not obliged to use such empty terms as "gut-feelings," "well-springs of emotions," or "empathic response" in assisting actors. Indeed, he could discuss the possibility of engaging more Parent in the transactional game. He could point out in the script where Parent ego state was abandoned because Child had been "hooked." The transactional approach did not supplant existing directing theory--instead it supplemented it. We still found it necessary to remind actors of voice and movement and tended to find traditional technical terminology useful.

Finally, transactional theory can be of significant value in managing the interpersonal transactions that occur between director and actors. If the director is aware of the ego state of his actors, he is in a better position to maintain complementary transactions and to avoid many personality clashes that frequently arise from the heat of rehearsals. If director and actors assume Adult, many problems can be remedied through direct, honest interactions. A temperamental actor was handled in this way during rehearsals of Right You Are. His Adult was given information that he and the other

actors would be more compatible if he could control his Child. Since he was also aware of and concerned with his attitude, he remedied the problem by consciously maintaining the Adult executive position.

SUMMARY

In summary, the critic, theorist, director, or actor who understands and uses the tools of transactional analysis in combination with older theories may improve his perception of the complexities of drama. New avenues of analysis emerge with regard to plot--i.e., plot development is viewed as a result of life script or counterscript; as a matrix of social transactions. Conflict can be described in more concrete terms--as the product of crossed-transactions, games, or the working out of counterscripts. We may extend genre theory by examining the similarities and differences in the transactional qualities of plays. Character analysis may be sharpened and made more concrete as we are able to discuss motivation in less esoteric terms than those provided by popular Freudian psychology. Finally, by examining the time structuring, positions, ego states, and individual transactions of playwright, characters, production and producing artists, we may be in a better position to judge the intent, the truthfulness, and the effectiveness of theatre, and its artists may be led to new heights of effectiveness in executing their art.

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THE PSYCHOLOGICAL EFFECT OF COUNTERATTITUDINAL ACTING

Harry W. Mossman

Recently the possibility was raised (Miller, 1972; Mossman, 1972) that cognitive dissonance theory may be useful for studying theatrical role playing. Festinger (1957) holds that conflict between role and private attitude in non-theatrical role playing creates a state of discomfort called dissonance in the role player, which he can most easily soothe by changing his attitude to conform to the role. One of the most important hypotheses of the theory states that the more justification a person is given for playing a counterattitudinal role, the less his attitudes will change to conform to that role (Festinger and Carlsmith, 1959).

This author (1972) has argued that we cannot simply assume that role playing for the stage is governed by the same laws. Since it is fictional behavior, the actor may not perceive it to be logically inconsistent with his own personal attitudes. Theoretically, the actor is saying: "If I were this character, here's how I might act." When we play roles in everyday life, on the other hand, it is nearly always with the recognition that our behavior will be perceived as representing our "selves."

There is, however, quite a bit of anecdotal evidence that actors do take on--in their personal lives--characteristics of characters they portray on the stage. Wheatley (1965) reports that professional actors frequently report what he calls "character invasion"--their stage characters seem to "invade" their personal lives. Smith (1971), in a controlled study, found that, although not all actors change their self-concepts to fit their character-concepts, some individual actors apparently do.

If attitude changes in actors result from a dissonance reduction process, then it should be possible to produce a justification effect even using a fictional task. This is not to say that there is no difference between fictional and everyday role playing. One would expect greater dissonance in the latter. In a hypothetically pure "as-if" context there might be no dissonance at all, but the anecdotal evidence suggests that such a context is not often reached by the actor.

Two research hypotheses were formulated and tested:

H^1: If subjects are persuaded to tape counterattitudinal dramatic speeches, then those subjects led to anticipate "real-life" consequences of their actions will agree more with the attitudes expressed in those speeches than subjects led to think of their behavior as purely fictional and without consequences for everyday life.

H^2: Under the conditions specified in H^1, subjects offered one dollar for making a tape will agree more with the speech than subjects offered two dollars.

Procedure

Subjects were drawn from rhetoric classes at The University of Iowa in the belief that non-actors would form a more appropriate group from which to extrapolate baselines for future research, and to avoid any contamination which could be introduced through differences in training or experience. Ten subjects--five males and five females--were randomly assigned to each of four experimental conditions.

Subjects were run individually. Males were asked to read a passage from one of Hamlet's

speeches (IV, iv, 53-66) and another from a speech by Hector in Troilus and Cressida (II, ii, 180-193), each of which was preceded by a short plot summary--a pilot study had indicated earlier that the latter scene was more counterattitudinal for the subject population used in this study. In that scene, Hector outlines why it is immoral to keep Helen. Nonetheless, he bows to pressure and agrees that the Trojans must keep her in order to save face, even though he knows it will prolong the war and cost many lives.

After reading the passages, the subject was asked to respond to a questionnaire dealing with "Responses to Theatrical Rhetoric." As well as serving as an informal pre-test and as a "cover" for the actual intentions of the experiment, the questionnaire forced the subjects to think seriously about the morality of the speeches they had just read. When the questionnaire was completed, the subjects were then asked to read a passage from a speech by Volumnia in Coriolanus (III, ii, 53-64), and another from one of Lady Macbeth's speeches (I, v, 13-28)--indicated in the pre-test to be the more counterattitudinal of the two--in which Lady Macbeth plans to persuade Macbeth to assassinate Duncan.

The same procedure was followed with the female subjects except that the order of the sets of speeches was reversed allowing them to read the Volumnia and Lady Macbeth speeches before the Hamlet and Troilus and Cressida speeches.

When the preceding phase of the experiment was completed, the experimenter acted as though the experiment was over, and depending upon the treatment group to which the subject had been previously and unwittingly assigned, the experimenter said in a manner suggesting "an after-thought:"

> There is one thing I would like for you to do, but this ends the experiment. Let me explain a little bit about what I am doing. What I am interested in is the difference between reading

and listening to dramatic speeches. In other words, there will be another group of subjects--also drawn from rhetoric classes--who will listen to recordings of the same speeches you read and answer the same questions. You notice that in each case you were discriminating between two speeches that were quite similar. In a sense you had the advantage in that you could read as slowly as you wanted and re-read as often as you wanted. A person listening to a performance couldn't do that. On the other hand, he or she would have things like tone of voice to go by. So, basically, I'm interested in the difference this makes. But what I decided to do, instead of using professional recordings, which would give the other group an obvious advantage, was to ask each of you who read silently to help me by making a tape of just one of the speeches. So that's what I'd like you to do if you'd be willing. I was able to get a little bit of research money from the department to pay people for making the tapes, which comes to $____[Half the subjects were offered one dollar; half were offered two dollars]. I should mention that everyone seems to want to make a _____ [Hamlet/Volumnia] speech, so I have enough of those and what I need now are some _____ [Hector/Lady Macbeth] tapes. So that's what I'd like you to make. Some people have expressed the feeling that they don't share the personal attitudes of some of the characters. The persons in the other group will know your name, since you will begin by giving it. They will want to know if the person who made the tape is someone they know.

In the "real-life" condition, the experimenter continued:

I have to tell you that they may confuse your own personal attitudes with those of the character. Our research indicates that this often happens, at least on an unconscious level, even when people understand intellectually that they are hearing a performance. That's something you'll have to take into account. So . . . would you be willing to help me out?

In the "as-if" condition, the experimenter continued:

> Just think of yourself as an _____[actor/actress] doing a job. No one is going to confuse your personal attitudes with those of the character. So . . . would you be willing to help me out?

If the subject agreed, the experimenter told the subject to look over the speech. He then left the room to get a tape recorder. When he returned, he answered any questions the subject had about the speech or the recording process. After the subject made the tape he was paid immediately and asked to fill out a short posttest questionnaire containing some cover questions in addition to several seven-interval Likert scales which were crucial to the experiment and which dealt with how morally justified the subject felt the character was in the speech the subject recorded. The experiment was concluded with a debriefing in which the subjects in the "real-life" condition were assured that no one would confuse their attitude with that of the character they portrayed--the experimenter merely felt obliged to warn them of that remote possibility. Finally, all subjects were asked not to talk about the experiment since, if future subjects thought they would make money, they might not keep their minds on the questionnaire.

Results

A three-factor analysis of variance (Bruning, 1968) was used to test both hypotheses (See Table 1). The analysis detected a significant effect for role-relationship. In other words, mean attitudes of subjects in the "real-life" condition were more positive toward the speech than those of the subjects in the "as-if" condition.

TABLE 1

ANALYSIS OF VARIANCE

Source	df	MS	F
Role-Relationship (A)	1	5.73	5.49*
Justification (B)	1	2.03	1.95
Sex (C)	1	21.03	20.22*
A x B	1	.12	.12
A x C	1	3.92	3.77
B x C	1	.62	.60
A x B x C	1	.01	.01

*p<.01

On the other hand, while the justification manipulation did generally produce differences in the predicted direction, the main effect for justification did not achieve statistical significance. Looking at cell means of posttest attitudes (See Table 2), however, it appears that only one cell mean fails to confirm the predicted differences--the 1.60 mean in the female, two-dollar, "as-if" cell. This should have been the lowest female mean, whereas, in fact, the one-dollar, "as-if" and the two-dollar, "real-life" means are slightly lower. On a seven-interval scale all three scores are so low that a lower limit may have been reached. In other words, it may be unreasonable to expect a lower score; it is hard to get much lower.

Because of the cell configuration, a planned comparison was run between the highest dissonance female cell and the other three female cells. This comparison produced a difference significant beyond the .05 level. That is, females with the highest dissonance potential agreed significantly more with the attitudes they espoused than the females in the other three groups.

TABLE 2

MEANS OF POSTTEST ATTITUDES

Justification	Role-Relationship	
	As-If	Real-Life
One Dollar		
Male	2.80	4.00
Female	1.40	2.00
Two Dollars		
Male	2.00	3.40
Female	1.60	1.40

All n's=5.

Discussion

While the results of this experiment are far from conclusive, they do seem to suggest that attitude change through dissonance arousal and reduction can occur in a theatrical context. They suggest, also, that "perceived fictionality" affects the degree of attitude change. Further research seems clearly indicated. The experiment should be replicated with more extreme levels of justification. There simply may not be much difference between one and two dollars any more.

Other sources of justification should be studied. These might include grades, academic credit, social factors such as the approval of the director and other actors, and the social and artistic importance of the production.

Another major line of investigation would deal with the actor's perception of his audience. Variables falling under this category would include

the degree to which he expects further interaction with audience members and the degree to which he cares about their reactions, as well as the degree to which he thinks they will confuse him with the character he is portraying.

Dependent variables studied should include self-concept as well as attitudes. Dimensions studied should include potency and activity as well as evaluative ones. In other words, there is no reason to expect changes in self-concept to be restricted to a good-bad dimension. However changes on this dimension certainly have profound social implications. We have an obligation to find out much more precisely what happens, for example, when a child actor is cast as a "bad guy" or as a racial or sexual stereotype. Many other possibilities for research suggest themselves.

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BODY BUFFER ZONE AND PROXEMICS IN BLOCKING

John C. Stockwell and Clarence W. Bahs

There has been ample evidence in the literature of psychology tc support the assumption that certain skills and manners of perception are correlated with specific personality charactersitics or traits. Furthermore, there have been studies in public address and theatre suggesting that public performers, actors and speakers possess personality characteristics which distinguish them as a group. The major thrust of this research has been in the direction of defining the personality traits of the public performer. These previous studies (Ball, 1958; Barnes, 1960; Drake, 1950; Finfgeld, 1966; Gilkinson & Knower, 1940; Golden, 1940; Tracy, 1935; Stock, 1967) have yielded a varied and often colorful, if not entirely definitive picture of the performing personality.

In recent psychological literature, both scholarly and popular, much attention has been given to a personality correlate--body image--and its effect on performance of certain tasks. These body image studies have offered the theatre researcher not simply the opportunity to understand more about the performing personality; but more importantly, they have provided the possibility for determining the relationship between a particular personality characteristic and artistic competence. The research reported here is a further step in an on-going project in body image and theatre performance devoted to increasing the understanding of this relationship.

Investigation in the field of psychology has isolated four dimensions of body image: (1) body consciousness-the degree of importance one attaches to his body (Jourard and Secord, Body-Cathexis and Personality, 1955); (2) body satisfaction--the nature of the feelings one has for the various parts or processes of his body (Secord, 1953; Jourard and

Secord, Body-Cathexis and the Ideal Female Figure, 1955; Calden, Lundy and Schlafer, 1959; Jourard and Secord, 1954; Secord and Jourard, 1953); (3) body image boundary--the degree to which one regards his body exterior as a defensive barrier armed against penetration (Cleveland and Fisher, 1954, 1955, 1956, and 1958; Fisher, 1963; Fisher and Fisher, 1964); and (4) buffer zone--a person's reaction to personal space or the area immediately surrounding him (Wapner and Werner, 1965; Duff, Horowitz, and Stratton, 1964; McFarland, Wapner, and Werner, 1962; Werner and Wapner, 1949; Little, 1965; Kinzel, 1970).

In previous studies (Bahs, 1969; Stockwell, 1970; Bahs and Stockwell, 1972; Stockwell and Bahs 1972), we have demonstrated that there is a definite relationship between the ability of a subject to use his body in pantomime performance and body image as defined by the dimensions of satisfaction and body boundary. The findings of this research suggested the possibility of further research into the effects of body image on a variety of theatre activities.

The purpose of this investigation was to measure the effects of personal body buffer zones on the way in which novice directors create compositional arrangements on the stage.

VARIABLES

Independent Variables

Humans have specific feelings about the space that immediately surrounds them--feelings as particular as their reactions to the body itself. Examinations of personal space in humans has been carried out by anthropologist E. T. Hall (1963, 1966), delineating intimate, social and personal distances in differing cultures. Kinzel noted clear body buffer zone differences between normals and individuals predisposed to violent behavior (1970). Duff, Horowitz and Stratton (1964) illustrated the closest tolerable approach distances surrounding schizophrenic and non-schizophrenic populations.

They identified "body buffer zone" as the area around a person within which anxiety is produced if another enters. They define it as ". . . an area surrounding each individual which represents the boundaries to what is felt as 'inner' versus what is felt as 'outer'" (Duff, Horowitz and Stratton, 1964). Thus psychologists have projected a picture of body image as a multidimensional agent which will condition the way in which a peson will respond physically to objects or persons in a spatial-environmental context.

Dependent Variable

It became increasingly apparent to us that the body buffer zone was a dimension which may bear some relevance to the director's task in terms of blocking or staging a production of a play. It became apparent that the director's awareness of his body in space should affect the spatial relationships he projects for actors in blocking compositions.

E. T. Hall selected and employed the term "proxemics" in his long series of studies on man's structures of his spatial relationships. He suggested that proxemic behavior was a function of several different "dimensions," including body axis or orientation, kinesthetic factors, touch code, visual combinations, and so forth, with appropriate scales for measuring each dimension (Hall, 1963). The dependent variable in this study--blocking compositions--was operationalized as scores on various dimensions of proxemic behavior.

PROCEDURE

Subjects for the experiment were drawn from seven sections of Introduction to Theatre--a course for non-drama majors at California State University, Northridge, CA., including 62 females and 43 males, none of whom had any previous experience as a play director.

A very straight-forward device (Duff, Horowitz and Stratton, 1964) was employed as the criterion measure for body buffer zone. The Ss were instructed that this was a study about the way people walk. In successive exercises they were told to walk in their own natural manner while the experimenters observed and took a few notes. First, they were instructed to walk directly to a male assistant who stood facing the S; then to a female assistant facing the S; followed by instructions to approach the male and female assistants a second time with their backs turned to the Ss. Each walk covered a distance of 25 feet. The index of Ss' buffer zone was the measure of distance between S and the assistant being approached, measured by counting the number of intervening six-inch intervals previously and unobtrusively marked on the floor.

The criterion measure for the dependent variable, blocking proxemics, was somewhat more complex. All Ss were given the same pair of male and female actors to block. A description of a brief scenario, physical setting, and two lines of dialogue were presented in the same manner to each S (director), and they were instructed to move the actors across the stage and to arrange them in a suitable physical relationship for the incident which had been presented. The instructions were given to the Ss so as to emphasize the pattern of movement rather than the points at which the actors were located for the lines of dialogue. Several proxemic indices were noted during and after the Ss' work with the actors: (1) the toe-to-toe distance between the actor and actress at the line of dialogue with which the scene ended, (2) the number of physical contacts initiated by the S (director) with the male and female actor/actress; (3) the number of verbalizations from the S to the male and female actor/actress; (4) the number of hand gestures directed to the male and female actor/actress; and finally, (5) the axis or the orientation of actors' bodies to each other at the line of dialogue with which the scene ended. The notation code (see Figure 1) devised by Hall (A System for the Notation of Proxemic Behavior, 1963) was employed to provide an index of axis, or the relation of the actors' bodies to each other.

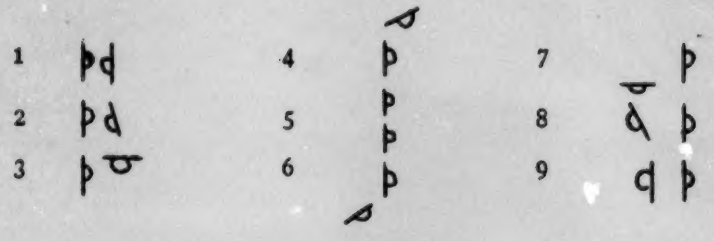

Figure 1. Proxemic Notation Code

RESULTS

This study hypothesized that a positive significant relationship would exist between body buffer zone scores and proxemic measures in a beginning director's blocking. The assessments of the data employed Pearson product moment correlations by sex between the four measures of the independent variable and the eight measures of the dependent variable with coefficients accepted as significant at the .05 level. The results follow in Tables 1 and 2.

It is apparent from Table 1 that no significant correlations were revealed between <u>males</u>' buffer zcne scores and proxemic dimensions in blocking compositions. Correlations were low, non-significant, and more often than not, they were in a negative direction.

Looking at Table 2, however, positive and significant correlations between each of the four measures of buffer zone and the distance dimension within the blocking compositions were revealed for females. It is also apparent that positive and significant correlations between each of the four measures of buffer zone and the axis dimension of the actors within the blocking compositions were revealed for <u>females</u>.

TABLE 1

TABLE OF CORRELATIONS (r)
FOR BUFFER ZONE AND
BLOCKING PROXEMIC
MEASURES--MALES

Proxemic Dimensions	F.A. to Males[1]	F.A. to Females	R.A. to Males[2]	R.A. to Females
Blocking Distances	-.06	-.16	.29	-.19
Blocking Axis	-.14	.00	-.18	-.27
Physical Contact with Males	-.13	-.06	-.12	-.11
with Females	-.15	.11	.04	-.04
Verbalizations to Males	-.12	.02	-.10	-.15
to Females	-.15	.01	-.28	-.14
Gestures to Males	-.11	-.10	-.21	-.15
to Females	-.06	-.13	-.29	-.17

[1]Front Approach to Males
[2]Rear Approach to Males
*.30 is significant at .05 level.

TABLE 2

TABLE OF CORRELATIONS (r)
FOR BUFFER ZONE AND
BLOCKING PROXEMIC
MEASURES--FEMALES

Proxemic dimensions	F.A. to Males[1]	F.A. to Females	R.A. to Males[2]	R.A. to Females
Blocking Distances	.40*	.63*	.45*	.43*
Blocking Axis	.44*	.33*	.58*	.27*
Physical Contact with Males	.14	.23	.20	.22
with Females	.23	.23	.26*	.16
Verbalizations to Males	.08	.19	.16	.03
to Females	.22	.26*	.26*	.21
Gestures to Males	.11	.24	.19	.12
to Females	.33*	.27*	.37*	.24

[1]Front Approach to Males
[2]Rear Approach to Females
*.25 is significant at .05 level.

Other positive and significant correlations were also revealed for females. Females' "gestures to females" during the blocking exercise correlated signficantly with three of the four measures of body buffer zone; "verbalizations to females" correlated significantly with two measures of buffer zone; and "gestures to females" correlated significantly with one measure of buffer zone.

It appears that where buffer zone scores could be correlated with proxemic dimension scores dichotomized by sex (i.e., physical contacts, verbalizations, and gestures), female buffer zone scores were more likely to correlate with proxemic dimensions associated with the female actress than with the male actor. This would suggest (only) that female buffer zone scores would have more predictive value in a beginning director's work with female actors than with male actors.

DISCUSSION

Each individual sub-consciously perceives his body as a sector of space that is uniquely his own, serving both as a base of operations for the individual and a major manifestation to others of his being and identity. Added to this for the actor and director is the conscious perception of the body as the primary instrument for the expression of his art and maintenance of his livelihood. The appearance of correlations between dimensions of body image and performance ability should come as no real surprise.

In our earlier research body image has appeared to have differential effects on the performance ability of males and females. Body satisfaction correlated positively with females' ability to perform simple pantomimic movement but indicated no significant correlation to male performance ability (Bahs, 1969; Bahs and Stockwell, 1972). Body image boundary correlated positively with males' ability to perform pantomime but related in no significant manner to female performance ability (Stockwell, 1970; Stockwell and Bahs, 1972). In the present study, body buffer zone has appeared to relate in some positive and significant way to the manner in which females with no directing experience arrange blocking compositions.

The differential effects for males and females requires explanation. In 1969, Bahs suggested that the anxiety resulting from the inability of females

to attain a culturally imposed "ideal female image"--much more dominant for females than for males--may be responsible for the differences in their ability to communicate through movement. In other words it is possible that lack of satisfaction in how a woman perceives her body may inhibit her ability to move communicatively. In 1970, Stockwell explained differences in responses to body image boundaries and the way they were reflected in differences in ability to move communicatively in terms of the variable effect of the achievement drive typically associated with body image boundary.

The relationship of body buffer zone to the proxemics of blocking exercises as directed by males and females also requires explanation. Diverse sources have cited a greater awareness of body feelings for females than males as well as a more positive acceptance of those impressions. Fisher (1972) points out that not only do female children display a greater awareness of their body than do males, but the magnitude of this difference increases after adolescence. Females feel more free to invest interest in their bodies than males; in fact, a male who displays open and direct interest in his body is often regarded as a deviant. Further, Fisher suggests that a woman typically sees a clearer and more meaningful relationship between her body and her life role than a man does. In short, females' perceptions of their bodies tend to be more concrete than males' perceptions, and, as a result more readily called forth from the sub-conscious and rigidly applied in life situations. It would seem in this research with buffer zones and blocking proxemics that this increased receptivity to stimuli provided by body image has had its expression in the methods and arrangements females employ in blocking actors in a composition. The parallel between female body buffer zone and female blocking is most likely a function of the clarity of the female body image and, relative to males, a readiness to employ it as a frame of reference in such situations.

It is important to recognize one characteristic of the subjects used in this study: they were untrained directors. This was the necessary start-

ing point if the effects of body buffer zone on blocking compositions were to be observed free from the "contaminating" influences of experience. It would be interesting as a second step to investigate the attenuating effects training in directing has on body buffer zone and its projection into blocking composition and techniques. Are females more resistant to repeated suggestions to "open compositions" or to "close" them than males? Do adjustments in buffer zones themselves accompany females' adjustments in patterns of arrangements in blocking composition, or are females' sub-conscious disbeliefs in body buffer zone willingly suspended here?

Another question worth investigating is whether the body buffer zone has a transactional quality--that is, does it alter under different circumstances to compensate for such variables as persons being confronted, degrees of familiarity, environments and so forth? As the nature of the scenes being blocked are altered, will females' blocking compositions alter in a manner consonant with their own buffer zones?

What effects do body buffer zones have on an actor's willingness or ability to take direction when he or she is directed to relate to another actor in a manner that violates his or her own buffer zone?

Finally, are acting or directing exercises presently employed in theatre classes effective to the degree that they alter the students' body image? Psychological research findings have indicated the very real possibility of manipulating body attitudes *via* special body attention and exercises.

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DRAMATIC BEHAVIOR NORMS OF FLORIDA CHILDREN

Gil Lazier, Douglas Zahn, and E. Joseph Karioth

Certain theories of learning and development, principally those of Piaget and his followers, link the mastery of cognitive skills with a kind of role playing (called "as if," symbolizing, or abstracting). At the same time, the improvisational dramatic activities of children are receiving wide emphasis in the classroom (creative dramatics), on television (Sesame Street, The Electric Company, etc.), and in rehabilitative agencies (for the deaf, retarded, and emotionally disturbed). It is therefore surprising if not alarming to discover that there is a dearth of normative information regarding those behaviors. This study is an attempt to gather that kind of information in order to improve our understanding of the improvisational dramatic activities of children.

Specifically, an interdisciplinary task force of researchers in drama curriculum, developmental psychology, statistics, and theatre science was organized to provide systematic data on the developmental character of different age levels of a sample population of Florida children engaged in dramatic improvisational activities in elementary schools. The overall objectives were: (1) to provide a developmental profile of the dramatic behavior representative of certain age groups of children from at least ten divergent geographic areas throughout Florida, and (2) to correlate such data with measures of creativity from the same samples. It was our belief that the first objective would benefit drama instruction and curriculum in general on the elementary level by supplying essential information on what to expect naturally from different age groups of children. The second objective could provide some bases for demonstrating the relationship between competence in drama and level of creativity.

These goals were implemented in three phases. The first phase was conducted in Tallahassee with a sample of subjects from the FSU (Florida State University) University School in a controlled laboratory situation. The second phase facilitated the collection of video samples of the dramatic behavior of children from the entire state of Florida in their home schools. The concluding phase involved behavior coding, processing, and analysis.

The first two phases had the following six elements in common: (1) Subjects were male and female children enroled in Florida public schools. They were drawn in thirteen subsets from each locale used in the study; each subset including an equal number of male and female subjects matched according to age in half-year intervals from six to twelve and one-half. They had their parents' permission to participate in the study and no prior training in drama. Principles of randomization guided the selection of subjects in all other conditions. (2) All subjects participated in improvisational activities prescribed as behavior samples by the primary measuring instrument, the IDB (Inventory of Dramatic behavior, Lazier, Sutton-Smith, and Zahn, 1971). (3) The testing environment in each locale was held constant. (4) Video recordings of all subjects were analyzed using the IDB. (5) Data processing made use of two-way analysis of variance, correlation coefficients (Pearson's "r"), and discriminant function analysis. (6) Creativity measures were taken on each subject ("Just Suppose" tests from Torrance, Directions Manual, 1966), the scores of which were correlated with those of the IDB.

The unique dimensions of this project's phases are summarized as follows:

1. Phase One: Preliminary Sample Research at FSU University School.--With the cooperation of the Director of the FSU University School, and the appropriate administrative committee of the FSU School of Education, a representative sample of six-to-twelve-year-old children living in the City of Tallahassee was selected from the University

School population. Specifically, fifty-two subjects were drawn in thirteen subsets of four (two males and two females), each subset representing half-year age intervals from six to twelve years. The subjects were randomly selected on all other conditions, but were previously selected for enrollment at the school by computer so that the entire student body was a perfect sample of children in the city on socio-economic, ethnic, and geographic criteria.

2. Phase Two: Field Research at Selected Schools Throughout Florida.--The Director of Elementary and Secondary Education of the Department of Education of the State of Florida and the English-Language Arts Consultant for the State of Florida were consulted in the subject selection. Florida was subdivided into ten geographic modules. All schools in each module containing children ages six through twelve and one-half were located. One school from each of the ten lists was randomly selected. From each school, twenty-six children were assigned to thirteen subsets of two each according to the rules described previously.

The behavior samples were collected by a team of three researchers travelling to the ten locales selected. These researchers were graduate students trained in developmental drama, behavioral research, and the specific procedures of this project.

3. Phase Three: Data Analysis.--By the final phase of the study, all individual data samples were analyzed and evaluated separately. In this final stage, study of sample correlations were undertaken. Among other comparisons, the following were considered important to the project:

A. The construction of developmental norms of dramatic behavior across the total study sample.

B. A comparison of developmental norms of dramatic behavior per age groups across three samples: (1) New York "laboratory," (Lazier, Sutton-Smith, and Zahn, 1971), (2) Tallahassee "laboratory," and (3) Florida "field".

C. A comparison of individual dramatic behavior and psychological measures across the total study population.

These were the goals of the project expressed in a three-phase schedule. The major evaluative instrument employed was the IDB. It was used to convert information obtained from video samples into numerical codes within eight categories of behavior over three samples per subject. Finally, the IDB scores were correlated with data collected from the Tallahassee subjects from the "Just Suppose" task of the Torrance Test of Creativity (used with the permission and help of its creator, E. Paul Torrance).

METHODS

IDB

A brief description of the Inventory of Dramatic Behavior is offered here to aid in understanding this project's results. A more detailed description of the instrument is available elsewhere (Lazier, Sutton-Smith, Karioth, and Zahn, 1972). Basically, the technique is a taxonomic or content analytic device for coding behavior by dividing it into categories and counting the number of specific occurrences for each variable in each category. Given a controlled testing environment and behavior samples preserved on video recordings, trained coders count recurrent behaviors in eight variable categories over three samples as they watch video recordings of the target behaviors of each subject.

Each subject improvises three "scenes" at the instructions of a tester-leader. Instructions are uniform and each "scene" includes directions of the previously performed improvisations. These behavior samples are designed to include a universe of behaviors generally associated with a one-person

improvisation. The categories used to code behaviors were:

(1) Time--a measure, in seconds, of total time spent for each improvisation.

(2) Amount of Space Traversed--a description of movement measured by counting the number of spatial units traversed by subjects in the course of each scene.

(3) Number of Stops--a cessation of gross movement constitutes a stop and is scored accordingly.

(4) Dramatic Incidents--a measure of the number of individual units of drama which comprise the scene.

(5) Novel Dramatic Incidents--a counting of those dramatic units conceived totally by the improvisor.

(6) Dramatic Acts--the smallest discernable units of intended physical behavior in the scenes.

(7) Repeated Acts--a category in which dramatic acts immediately repeated are scored.

(8) Characters Created--a category in which the number of imaginary characters created are scored.

Through the use of this instrument, the improvisational behavior of hundreds of subjects, each performing three scenes, may be coded according to salient categories and processed through computer programs in order to ascertain norms.

Torrance "Just Suppose" Creativity Test

This creativity measure was administered to the Phase One sample (subjects from Florida State University Laboratory School) immediately following the IDB video tapings. The examiner received each

child into a quiet room and began the session by creating a "tension-free, non-testing atmosphere." The following task description, from the Torrance Manual, was presented to each subject.

> You will now be given an improbable situation--one that may never happen. You will have to just suppose that it has happened. This will give you a chance to use your imagination to think out all of the other exciting things that would happen if this improbable situation were to come true.
>
> In your imagination, just suppose that the situation described were to happen. Then think of all the other things that would happen because of it. In other words, what would be the consequences? Make as many guesses as you can.
>
> The improbable situation--JUST SUPPOSE a great fog were to fall over the earth and all we could see of people would be their feet. What would happen? How would this change life on earth (Torrance, Directions Manual, 1966, 4)?

Eight minutes are allowed for the completion of the test. During this period the examiner may activate responses or attempt to reduce test-anxiety with non-specific prompting. Appropriate comments include, "What else might happen?" or "How many different things can you think of?" All responses are recorded regardless of seeming relevance (or lack of it). Approval or disapproval is avoided.

The "Just Suppose" activity is intended to assess three areas of creative behavior. The following brief descriptions are provided in the Torrance Manual.

> Verbal Fluency. This score reflects the test taker's ability to produce a large number of ideas with words.

Verbal Flexibility. This score represents a person's ability to produce a variety of kinds of ideas, to shift from one approach to another, to use a variety of strategies.

Verbal Originality. This score represents the subject's ability to produce ideas that are away from the obvious, commonplace, banal, or established (Torrance, Norms-Technical Manual, 1966, 72-73).

Separate scoring techniques for each of these three creativity constructs are described in Torrance's Norms-Technical Manual.

Activities

The Phase One activities were viewed in five developmental steps: (1) the securing of necessary technical equipment (video cameras, VTR units, monitors, tapes, etc.), the training of personnel to operate that equipment, and the securing of space for using the equipment, (2) developing sample selection protocol (random assignment of subjects within the variable categories for the laboratory sample), (3) training video sample coders (teaching IDB procedures to eleven scorers was a part of this phase), (4) data collection rehearsal and final subject random assignment to actual taping schedule, and (5) the actual taping and scoring of Phase One.

This entire procedure was geared to our laboratory setting at the FSU University School. The space used was a remodeled auditorium stage at that locale which was adapted specifically to add as many controls as possible to our procedures while at the same time presenting an estimated norm of what average conditions should be like in the second phase of the project when our team would travel to "on site" school settings. All stages of our first phase activities from the operating of equipment to the selection of subjects to the improvisations to the scoring of tapes were rehearsed allowing us to run the entire sequence with few mishaps. After the data were collected, we prepared for the next stage.

Through the Florida State Department of Education, we were provided with a map of school district geographic areas of the state. Our task was to select ten districts which represented as diverse geographic points within the state boundaries as possible. In cases of options (in which two areas were equally suitable once they fit the geographic criterion) we chose on the basis of estimated population concentration (attempting to match rural and urban areas) and route (providing the most direct data collecton travel itinerary). We then consulted the Language Arts Supervisor of the state to select a system and school within each district, attempting to randomize within each of the ten districts. The following lists the results of the selection process:

	Town	County	Elementary School
1.	Bradenton	Manatee	Palma Sola
2.	Crestview	Okaloosa	Southside
3.	Cross City	Dixie	Anderson
4.	Jacksonville	Duval	Englewood
5.	Jennings	Hamilton	North Hamilton
6.	Ft. Lauderdale	Broward	Nora
7.	Miami	Dade	James Bright
8.	Ocalla	Marion	Eighth Street
9.	Pensacola	Escambia	Montclair
10.	Sanford	Seminole	Forrest City

A letter was sent to the appropriate administrators at each testing site, outlining random processes for selecting actual subjects, specifications for testing locations, and protocol for the day of testing. Dates were chosen for data collection and training of the research team to handle the field conditions of the project (technical set-up of recording equipment, adapting to a new collection loci, etc., within a one-day schedule per school) was begun. Data collection tours were conducted during April and May of 1972. The final data processing stage of our study was completed during a five-month period following the completion of data collection.

RESULTS

Reliability

The basic data gathered in this study were the videotaped recordings of the performance of each child. The IDB was then used to translate the videotapes into scores on the eight dimensions for the three scenes for each child. The first step in our data analysis was an investigation of the reliability of the translation from videotape to dimension score. Coefficients of reliability were obtained when seven raters independently rated each of five randomly chosen children. These coefficients were all large, with 20 out of 24 being between r=.65 and r=1.00. "Characters" was the only dimension with rather low reliability coefficients (See discussion of intraclass correlation coefficient in Winer, 1971, 283-289).

Data Preparation

When we examined the data gathered in this study, it was evident that virtually all of the children could be viewed as having come from a single population of "normal" children. However, there were two subjects, one in the Tallahassee sample and one in the Florida sample, who clearly were "outliers." They appear to have been "outliers" in the technical or statistical sense that they were drawn from a population of hyperactive children with scores much larger than those of the normal population. To obviate any excessive effects those scores may have had, they were "winsorized" or replaced with the largest scores obtained from the "normal" population.

Further examination of the data indicated another problem. Two children, who were apparently autistic, did not respond at all to the instructions. Hence, their scores on all dimensions were zero. Therefore, we removed the scores of those two children from the data, leaving a sample which

consisted of 34 New York subjects, 52 Tallahassee subjects (one of whom had winsorized scores), and 268 Florida subjects (one of whom had winsorized scores).

Developmental Norms

One of the primary objectives of this research was to construct developmental norms for primary school children on the variables of the IDB. Technically, we were interested in the scores of the population of Florida primary school children on 26 random variables, the eight IDB dimensions in each of the three scenes, time before the entrance of another character, and time after the entrance of another character (the "time" dimension is thus divided in two in Scene Three). Particularly, we wanted to estimate the population mean of each of those random variables for children of various ages and sexes. Thus, the developmental norms which we report will actually be sample means which will be our best estimates of the associated population means. We will also report our estimates of the standard deviations of the various populations.

There were two questions to be answered before constructing the developmental norms:

1. Can the data from Tallahassee and the other 10 counties in Florida be pooled to construct the norms?

2. Are separate norms necessary for various ages? For males and females?

If we found no significant differences among the counties we could pool the data from the 11 counties (Phase One and Two samples) to estimate the norms. To answer the second question, we looked for significant differences once again, this time among the age groups and sexes. If no differences were found, we could then accept one set of norms for all

of the children regardless of their age or sex. If, differences were found, it would be necessary to construct separate norms for the various ages and sexes. Essentially, the second question asked: Based on the 26 variables of this study, how many *distinct populations among the primary* school children are we able to identify?

We investigated those questions by computing a three-factor (11 x 6 x 2) analysis of variance for each dimension in each scene. The three factors were (1) the counties--11 counties, (2) ages--6, and (3) sex--2. All three-factor analysis of variance tests were computed for each of the 26 variables: one for each of the eight dimensions in each of the three scenes (24), one for "time before the entrance of another character," and one for "time after the entrance of another character." The Colorado University Institute of Behavioral Sciences Computer Program 222 was used for computing analyses of variance.

County to county differences.--The analyses indicated that the mean values of the 26 variables did not vary significantly by county. Only for Acts-Scene Two, and Acts-Scene Three did the analysis for counties reveal differences significant beyond the .05 level. It is likely, however, that those significant findings may not represent "true" differences in as much as, using the .05 level, one should expect chance to account for significant differences in one in every 20 tests, and since in this case there were 26 separate analyses, it is likely that the two differences found resulted as much from chance as from "true" differences. Thus we did not feel that the results for Acts-Scenes Two and Three constituted sufficient cause not to pool the results from the 11 counties. Hence, we pooled the data from the 11 counties in order to estimate population means and thereby construct developmental norms. This analysis also serves to verify the methodology used to gather data in the ten counties of Florida by indicating that there were no significant differences between information gathered "on the road" and that collected in Tallahassee under more controlled circumstances.

Age and/or sex differences.--The analyses of variance indicated several differences between the sexes and the age groups on the IDB dimensions. Table 1 displays the F-Ratios obtained from the three-way analyses of variance which tested the differences between sexes and age groups. It is apparent from Table 1 that some of the differences among the age groups in Scenes One and Two were statistically significant leading us to believe that, in terms of the 26 variables, 12 different populations were under study: six; seven; eight; nine; ten; and eleven and twelve year-old boys along with the corresponding groups of girls. Thus, developmental norms or, more precisely, estimates of population means for each of those twelve populations are reported in Tables 2 through 11. Those tables report the estimated means and standard deviations for each of the 26 variables for each of the 12 populations.

New York versus Florida subjects.--More differences are apparent among the Florida subjects than the New York subjects. In particular, there are more age differences in the Florida subjects. Also, some sex differences are seen in the Florida subjects. The girls took less time in Scenes One and Two, while the boys created more incidents and novel incidents. Most noteworthy of the differences here is the fact that Tables 2-11 indicate that the type of age variation seen in the Florida subjects is different from that seen in in the New York subjects. Among the latter, the younger subjects were more active, whereas among the former, the older subjects were. This difference merits further research.

Correlations among dimensions.--Table 12 displays the correlation coefficients of the relationships among the dimensions for Scenes One, Two, and Three, respectively. These are "within group" correlations, where groups are young (6.0 through 8.5 years) girls, old (9.0 through 12.0) girls, young boys, and old boys. The within group correlations are reported because of the significant differences found among group means (see Cooley and Lohnes, 1971, 230, for further details). The corre-

lations among the variables for the Florida children are smaller than the correlations for the New York children reported earlier in Lazier, Sutton-Smith, and Zahn (1971). The greater homogeneity of the New York group may be a result of their dramatic training.

New York subjects versus Florida subjects on overall means.--Table 13 displays the overall means and standard deviations for the Florida and New York subjects. That Table indicates which dimensions and scenes yielded significantly different overall means in the two groups. Several differences between the two groups are apparent in Scenes One and Two. The New York children were more active physically and dramatically. However, there were few differences between the groups in Scene Three. Apparently, the presence of the other character served to supress the differences between the groups.

The standard deviations indicated that there was little difference between the variabilities of the two groups of subjects on the dimensions.

Creativity and the IDB

Table 14 reports the correlations between the three creativity scores and the IDB dimensions. Most of the significant correlations were between the creativity variables and dimensions in Scene Two. The correlations among the three creativity scores were so large that it appears that they were measuring one, or at most, two concepts. Additional research is needed to explore the negative correlations found between flexibility and the Scene Three dimensions.

TABLE 1

ANALYSIS OF VARIANCE FOR SEX AND AGE

VARIABLE	F-RATIO SEX (df=1,178)	F-RATIO AGE (df=5,178)
Scene One		
Squares	2.12	2.51*
Stops	2.65	4.66*
Incidents	3.54	4.65*
Acts	0.21	3.55*
Repeats	1.35	0.94
Time	4.96*	1.74
Novel Incidents	3.93*	5.33*
Characters	0.64	3.24*
Scene Two		
Squares	1.38	1.37
Stops	0.56	3.17*
Incidents	5.20*	4.54*
Acts	3.61	3.49*
Repeats	0.11	2.50*
Time	4.90*	2.06
Novel Incidents	4.08*	4.51*
Characters	0.17	1.83
Scene Three		
Squares	3.68	1.63
Stops	0.40	1.23
Incidents	2.66	2.02
Acts	0.29	2.65*
Repeats	0.00	2.96*
Time	0.00	0.80
Novel Incidents	7.40*	0.52
Characters	1.21	0.33
Time Before Policeman	1.36	0.58
Time After Policeman	3.75	0.64

*Significant at the .05 level.

TABLE 2

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR SQUARES

YEARS	BOYS		GIRLS	
	$\bar{X}$	σ	$\bar{X}$	σ
Scene One				
6.0 through 6.5(23,22) *	1.8	1.5	1.6	0.9
7.0 through 7.5(25,24)	2.4	2.4	1.9	1.3
8.0 through 8.5(24,24)	3.8	5.4	2.2	1.3
9.0 through 9.5(24,24)	2.9	1.8	3.8	3.7
10.0 through 10.5(24,24)	3.6	3.8	3.3	4.2
11.0 through 12.0(36,36)	4.2	5.0	2.6	2.6
Scene Two				
6.0 through 6.5	4.6	3.1	4.4	2.1
7.0 through 7.5	7.0	4.7	5.6	2.5
8.0 through 8.5	6.5	4.2	6.0	3.0
9.0 through 9.5	6.5	4.1	6.8	6.9
10.0 through 10.5	6.8	4.8	6.3	3.3
11.0 through 12.0	6.7	5.1	5.5	3.5
Scene Three				
6.0 through 6.5	6.7	3.6	5.0	2.1
7.0 through 7.5	7.0	3.6	6.0	2.0
8.0 through 8.5	7.9	6.8	8.4	11.3
9.0 through 9.5	9.1	6.5	5.1	1.7
10.0 through 10.5	6.7	3.9	7.0	6.2
11.0 through 12.0	6.4	2.8	5.8	2.1

*The numbers in parentheses are cell n's. The first represents males and the second, females. Since n's remain constant throughout, n's are not repeated in subsequent tables.

TABLE 3

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR STOPS

YEARS	BOYS		GIRLS	
	$\bar{X}$	σ	$\bar{X}$	σ
Scene One				
6.0 through 6.5	0.7	1.4	0.5	0.8
7.0 through 7.5	1.0	1.4	0.8	0.9
8.0 through 8.5	1.8	3.4	0.9	1.0
9.0 through 9.5	1.8	1.7	2.0	2.0
10.0 through 10.5	2.4	2.3	1.8	1.7
11.0 through 12.0	1.8	1.6	1.3	1.4
Scene Two				
6.0 through 6.5	2.3	2.0	2.0	1.3
7.0 through 7.5	2.6	2.0	2.5	1.4
8.0 through 8.5	3.0	2.0	3.0	1.5
9.0 through 9.5	3.5	1.7	3.5	2.9
10.0 through 10.5	3.6	1.8	3.4	1.9
11.0 through 12.0	3.2	1.4	3.0	1.5
Scene Three				
6.0 through 6.5	2.3	2.0	2.0	1.3
7.0 through 7.5	2.4	1.9	2.3	1.4
8.0 through 8.5	2.4	1.5	2.5	1.8
9.0 through 9.5	3.0	2.1	2.3	1.1
10.0 through 10.5	2.5	1.2	3.0	1.0
11.0 through 12.0	2.7	1.0	2.6	1.4

TABLE 4

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR INCIDENTS

YEARS	BOYS		GIRLS	
Scene One	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	1.3	0.6	1.2	0.4
7.0 through 7.5	1.6	0.8	1.3	0.5
8.0 through 8.5	1.9	0.7	1.7	0.7
9.0 through 9.5	1.8	0.6	1.7	0.8
10.0 through 10.5	2.0	1.6	2.0	1.4
11.0 through 12.0	1.9	1.1	1.6	0.6
Scene Two				
6.0 through 6.5	2.3	1.4	2.1	0.8
7.0 through 7.5	3.0	2.0	2.5	0.9
8.0 through 8.5	3.2	1.1	2.9	1.0
9.0 through 9.5	3.2	1.4	3.1	1.1
10.0 through 10.5	3.1	1.3	3.1	0.9
11.0 through 12.0	3.2	1.1	2.9	1.0
Scene Three				
6.0 through 6.5	3.0	0.9	2.8	0.7
7.0 through 7.5	3.2	1.2	3.1	0.7
8.0 through 8.5	3.4	0.7	3.2	0.8
9.0 through 9.5	3.5	1.2	3.1	0.9
10.0 through 10.5	3.3	1.4	3.5	0.7
11.0 through 12.0	3.4	0.9	3.2	0.7

TABLE 5

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR ACTS

YEARS	BOYS		GIRLS	
Scene One	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	3.3	2.0	4.1	2.2
7.0 through 7.5	4.6	3.4	5.3	2.1
8.0 through 8.5	6.5	4.5	6.0	4.0
9.0 through 9.5	6.5	3.4	6.3	4.2
10.0 through 10.5	6.6	4.3	6.3	5.3
11.0 through 12.0	7.4	4.9	5.7	3.2
Scene Two				
6.0 through 6.5	6.6	3.8	7.2	4.6
7.0 through 7.5	9.3	7.1	8.6	3.9
8.0 through 8.5	10.5	6.1	10.0	5.2
9.0 through 9.5	14.3	15.1	10.0	6.2
10.0 through 10.5	11.5	5.7	11.0	7.2
11.0 through 12.0	12.3	8.3	9.0	4.4
Scene Three				
6.0 through 6.5	11.5	4.7	12.9	6.6
7.0 through 7.5	11.8	6.9	13.5	4.7
8.0 through 8.5	14.0	6.1	14.6	6.8
9.0 through 9.5	16.5	5.8	12.4	6.1
10.0 through 10.5	13.6	6.3	15.6	5.4
11.0 through 12.0	16.4	8.8	13.8	4.5

TABLE 6

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR REPEATS

YEARS	BOYS		GIRLS	
Scene One	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	1.3	4.5	1.4	4.1
7.0 through 7.5	0.2	0.8	2.9	8.9
8.0 through 8.5	0.3	1.2	0.5	1.8
9.0 through 9.5	1.8	4.4	0.7	2.6
10.0 through 10.5	0.7	2.0	0.3	1.0
11.0 through 12.0	0.4	1.0	0.9	3.3
Scene Two				
6.0 through 6.5	6.4	9.1	6.2	11.5
7.0 through 7.5	6.7	14.4	14.1	25.8
8.0 through 8.5	10.2	15.2	4.4	5.7
9.0 through 9.5	7.1	11.0	2.8	3.1
10.0 through 10.5	4.2	6.8	3.1	4.2
11.0 through 12.0	5.1	11.7	4.3	8.9
Scene Three				
6.0 through 6.5	7.4	9.7	9.5	19.6
7.0 through 7.5	6.9	13.7	8.6	9.3
8.0 through 8.5	5.1	8.0	5.3	6.6
9.0 through 9.5	4.5	4.5	3.3	4.2
10.0 through 10.5	3.2	3.2	4.3	5.7
11.0 through 12.0	5.6	10.4	2.9	4.1

TABLE 7

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR TIME

YEARS	BOYS		GIRLS	
Scene One	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	18.6	17.1	13.0	10.3
7.0 through 7.5	25.0	23.0	26.5	29.8
8.0 through 8.5	32.0	45.7	24.6	20.3
9.0 through 9.5	26.5	18.6	24.0	18.4
10.0 through 10.5	35.5	22.9	18.4	11.9
11.0 through 12.0	26.7	29.3	21.6	15.7
Scene Two				
6.0 through 6.5	35.1	25.2	31.2	17.3
7.0 through 7.5	61.5	95.2	44.2	40.5
8.0 through 8.5	44.4	46.1	34.7	11.5
9.0 through 9.5	50.1	58.5	36.2	42.9
10.0 through 10.5	43.3	31.9	37.0	26.3
11.0 through 12.0	38.6	30.2	30.9	17.2
Scene Three				
6.0 through 6.5	69.0	20.8	69.0	34.5
7.0 through 7.5	61.4	24.2	64.5	27.6
8.0 through 8.5	59.5	20.9	61.3	17.4
9.0 through 9.5	64.3	21.0	60.0	20.9
10.0 through 10.5	62.0	26.7	62.2	31.5
11.0 through 12.0	61.1	26.5	59.0	19.4

TABLE 8

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR NOVEL INCIDENTS

YEARS	BOYS		GIRLS	
Scene One	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	0.2	0.4	0.2	0.4
7.0 through 7.5	0.6	0.8	0.3	0.5
8.0 through 8.5	1.0	0.8	0.6	0.7
9.0 through 9.5	0.8	0.6	0.6	0.8
10.0 through 10.5	1.0	1.6	1.0	1.4
11.0 through 12.0	0.9	0.9	0.6	0.6
Scene Two				
6.0 through 6.5	0.3	0.6	0.2	0.4
7.0 through 7.5	0.5	0.7	0.3	0.5
8.0 through 8.5	0.9	0.9	0.7	0.8
9.0 through 9.5	1.0	1.2	0.7	0.7
10.0 through 10.5	0.9	1.1	0.8	1.0
11.0 through 12.0	0.9	0.9	0.6	0.6
Scene Three				
6.0 through 6.5	0.2	0.7	0.0	0.2
7.0 through 7.5	0.2	0.5	0.1	0.3
8.0 through 8.5	0.2	0.5	0.2	0.4
9.0 through 9.5	0.6	1.1	0.0	0.2
10.0 through 10.5	0.4	1.1	0.2	0.4
11.0 through 12.0	0.3	0.6	0.1	0.3

TABLE 9

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR CHARACTERS

YEARS	BOYS		GIRLS	
Scene One	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	0.0	0.2	0.0	0.2
7.0 through 7.5	0.2	0.5	0.3	0.6
8.0 through 8.5	0.5	0.8	0.2	0.4
9.0 through 9.5	0.4	0.5	0.4	0.7
10.0 through 10.5	0.5	0.9	0.6	0.8
11.0 through 12.0	0.5	0.9	0.4	0.6
Scene Two				
6.0 through 6.5	0.0	0.0	0.0	0.2
7.0 through 7.5	0.2	0.4	0.3	0.5
8.0 through 8.5	0.4	0.7	0.3	0.5
9.0 through 9.5	0.3	0.6	0.3	0.6
10.0 through 10.5	0.4	0.9	0.5	0.8
11.0 through 12.0	0.7	1.7	0.3	0.5
Scene Three				
6.0 through 6.5	0.0	0.2	0.0	0.2
7.0 through 7.5	0.0	0.0	0.3	1.2
8.0 through 8.5	0.0	0.0	0.9	3.2
9.0 through 9.5	0.1	0.3	0.0	0.0
10.0 through 10.5	0.0	0.0	0.1	0.3
11.0 through 12.0	0.0	0.2	0.0	0.2

TABLE 10

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR TIME BEFORE OTHER CHARACTER
SCENE THREE

YEARS	BOYS		GIRLS	
	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	27.6	18.8	26.0	31.8
7.0 through 7.5	23.7	20.2	23.5	28.0
8.0 through 8.5	22.6	17.4	22.1	15.5
9.0 through 9.5	25.5	15.4	22.4	19.9
10.0 through 10.5	24.0	22.1	20.6	15.6
11.0 through 12.0	23.8	22.6	18.1	10.7

TABLE 11

SAMPLE MEANS AND STANDARD DEVIATIONS
FOR TIME AFTER OTHER CHARACTER
SCENE THREE

YEARS	BOYS		GIRLS	
	$\bar{X}$	σ	$\bar{X}$	σ
6.0 through 6.5	41.3	7.7	42.5	7.5
7.0 through 7.5	38.0	8.3	40.8	7.1
8.0 through 8.5	36.8	6.6	39.2	7.6
9.0 through 9.5	38.8	9.7	37.8	6.8
10.0 through 10.5	38.4	8.9	41.6	21.3
11.0 through 12.0	37.3	7.4	40.9	14.4

TABLE 12

CORRELATION COEFFICIENTS BETWEEN THE DIMENSIONS AND BETWEEN THE DIMENSIONS AND AGE FOR FLORIDA SUBJECTS (n = 310)

	Age	Sqrs.	Stops	Incs.	Acts	Rpts.	Time	N.I.
Scene One								
Sqrs.	.00							
Stops	.03	.81*						
Inc.	.05	.61*	.58*					
Acts	.03	.59*	.61*	.59*				
Rpts.	-.12*	-.06	-.08	-.04	.04			
Time	-.05	.38*	.36*	.27*	.44*	.10		
N.I.	.04	.60*	.55*	.96*	.55*	-.04	.26*	
Char.	-.06	.15*	.23*	.50*	.27*	.02	.11	.54*
Scene Two								
Sqrs.	-.06							
Stops	-.03	.75*						
Incs.	-.06	.52*	.64*					
Acts	-.09	.37*	.38*	.41*				
Rpts.	-.14*	.07	.01	.11	.36*			
Time	-.15*	.40*	.41*	.37*	.60*	.40*		
N.I.	-.09	.43*	.45*	.63*	.20*	-.03	.14*	
Char.	.04	.27*	.18*	.24*	.18*	.00	.05	.34*
Scene Three								
Sqrs.	-.08							
Stops	.05	.51*						
Incs.	.06	.33*	.54*					
Acts	-.03	.28*	.46*	.52*				
Rpts	-.09	.07	.07	.22*	.41*			
Time	-.10	.47*	.34*	.41*	.57*	.47*		
N.I.	.02	.32*	.30*	.48*	.16*	-.04	.25*	
Char.	.01	.06	.15*	.01	.05	.04	.04	.02

*Significant at .05 level.

TABLE 13

A COMPARISON OF THE MEANS AND STANDARD DEVIATIONS OF NEW YORK AND FLORIDA SUBJECTS

	New York (n = 34)		Florida (n=310)		Diff.
Scene One					
Squares	3.9	2.8	2.9	3.3	
Stops	2.6	1.7	1.4	1.8	*
Incidents	2.3	1.1	1.7	0.9	*
Acts	12.1	10.7	5.8	3.9	*
Repeats	4.4	7.4	0.9	3.6	*
Time	39.1	26.9	24.4	24.0	*
Novel Incidents	1.4	1.2	0.6	0.9	*
Characters	0.9	1.2	0.4	0.7	*
Scene Two					
Squares	6.5	4.4	6.1	3.2	
Stops	3.9	1.8	2.9	1.8	*
Incidents	3.7	1.3	2.9	1.2	*
Acts	16.9	7.5	10.1	7.3	*
Repeats	11.4	13.5	6.1	12.2	*
Time	63.4	30.9	40.3	42.3	*
Novel Incidents	1.2	1.1	0.7	0.8	*
Characters	1.1	1.3	0.3	0.8	*
Scene Three					
Squares	5.9	4.4	6.7	5.1	
Stops	2.7	1.0	2.5	1.5	
Incidents	3.2	0.9	3.2	0.9	
Acts	12.9	5.6	14.0	6.3	
Repeats	7.2	7.3	5.4	9.3	
Time	75.1	26.6	62.5	24.4	*
Novel Incidents	0.3	0.6	0.2	0.6	
Characters	0.1	0.3	0.1	1.0	
Time Before Policeman	31.0	24.7	23.1	20.1	*
Time After Policeman	44.5	15.3	39.4	10.4	*

*Significant at .05 level.

TABLE 14

CORRELATION COEFFICIENTS OF THE RELATIONSHIP OF DIMENSIONS TO CREATIVITY SCORES FOR TALLAHASSEE SUBJECTS (n = 51)

	Fluency	Flexibility	Originality
Scene One			
Squares	.18	.09	.14
Stops	.30*	.17	.11
Incidents	.30*	.25	.21
Acts	.39*	.22	.22
Repeats	-.22	-.13	-.05
Time	.09	.17	.18
Novel Incidents	.32*	.28*	.26
Characters	.21	.31*	.27*
Scene Two			
Squares	.01	-.02	.11
Stops	.20	.12	.12
Incidents	.10	.01	.03
Acts	.36*	.28*	.27*
Repeats	.34*	.51*	.38*
Time	-.02	.14	.07
Novel Incidents	.09	.03	.07
Characters	.11	.16	.14
Scene Three			
Squares	-.19	-.30*	-.15
Stops	.03	-.19	-.09
Incidents	-.25	-.30*	-.20
Acts	.03	-.09	-.04
Repeats	.07	-.08	-.03
Time	-.10	-.20	-.10
Novel Incidents	-.28*	-.27*	-.15
Characters	.27*	.04	.25
Time Before Pol.	-.05	-.23	-.12
Time After Pol.	-.09	-.04	-.02
Fluency	1.00	.66*	.52*
Flexibility	.66*	1.00	.82*
Originality	.52*	.82*	1.00

*Significant at .05 level

Non-Technical Summary of Data Analysis

Tables 2-11 summarize the average performances on the dimensions found in this study of Florida primary school children. Individual scores are given for boys and girls, aged six years to eleven years. Major differences among these groups of Florida children can be summarized as follows:

1. Girls spent more time playing Scenes One and Two and created more incidents and novel incidents while doing so.

2. Older children (9.0 to 12.0 years) differed in several ways from the younger children (6.0 to 8.5 years) in Scenes One and Two. They covered more squares, made more stops, and created more incidents, novel incidents, acts, and characters. However, in Scene Three with the other character there were essentially no differences between younger and older children.

CONCLUSIONS

We embarked upon this year-long research project with some very tangible and important goals in mind. The target quest had to do with providing a systematic profile of the natural behavior of Florida elementary school children. We asked the question, "What do these children do when called upon to improvise dramatically?" "These children" refers to a scientifically selected sample naive in dramatic matters. We felt that this conformation could be of use to any teacher who wishes to train children by providing a base line of expected behavior.

We discovered, in non-technical terminology, the following information about Florida children:

1. Children from diverse parts of the state perform similarly, and the behavior of a child

from Jacksonville can be compared with one from Miami on the measures used in this study.

2. Children do indeed perform differently if viewed in distinct age increments of one year. Thus, it might be wise for teachers to consider each yearly age group as a distinct class, not pooling all children from six to twelve into one drama class.

3. The sex of the child does indeed have an effect upon his behavior. Teachers can expect girls and boys to exhibit different behaviors and these can be seen in terms of more created plot details by boys, for example.

4. Florida children react differently than New York children on the dramatic measures indicating that geography or prior training (the New York children all had six months of drama classes) may have a significant effect on dramatic behavior.

5. The behavior of any one Florida child seems less consistent than any one New York child; a factor produced possibly by prior training or geographic differences.

6. The New York children are more dramatically "advanced" than Florida children because of either training or geography; they appear more expressive.

7. There appears to be a relationship between creative behavior and dramatic behavior since high and significant correlations occur throughout individual dimensions of both indices.

Study of the behavior norms cited in this report should help teachers modify their expectations when they face their pupils for the first time. Cognizance of the correlations between creativity and dramatic behavior might suggest that drama may be an effective means to stimulate creativity. Further, the instrument described in detail earlier, the IDB, has proved to be an efficient tool for the purposes to which we have applied it. We can go on now to create a larger data base using it,

perhaps eventually providing norms of dramatic behavior for children throughout the United States.

In the last analysis, we hope that our work can help accomplish one very important goal: to make the lives of our children freer and happier by telling us more accurately what they like and what is natural to them. We feel drama training can help and that we may be able to help drama training.

REFERENCES

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